Message from the Chair, by Dr. Diego Martin

We had an awesome semester with great accomplishments thanks to all of your efforts and willingness to work with us despite our rapid change. As a matter of fact, our external reviewers referred to our department’s rapid change over the last 18 months as “vibrant” and noted that we have an “engaged faculty and a commitment to high quality clinical service, innovation in research, and excellence in education.” We still have much to be done and I feel we are on the right path to further success.

The next few months brings us much more transition as we welcome new colleagues at all levels and introduce technological advances that will position us with the other medical areas. As we re-energize over the summer, I want to emphasize the importance of your work and input, which has resulted in all our accomplishments and advancements thus far. We have been able to recruit top scholars, researchers and others who bring a lot of experience, skills and knowledge to our great team. Thank you very much.

Go Philips, Go!

by Balazs Lengyel, M.D., Chief of Imaging Informatics

The Department of Medical Imaging witnessed the successful completion of the PACS project when the Philips IntelliSpace project went live on April 12th.

The benefit of the Philips PACS system is that it enables our radiologists to fully integrate all departments and all imaging data into one cohesive single system, thereby making “everything that’s image” accessible at the push of a button. The Philips PACS System offers enterprise wide, inter-departmental collaboration like never before. Whether it is radiology, cardiology or ophthalmology, the system links all departments and all divisions within those departments.

(Continued on page 2)
Go Philips, Go! by Balazs Lengyel, M.D.  (Continued from page 1)

An added capability of the PACS system is that it enables us to reach out to external referring physicians. We can import studies directly into PACS, allowing the patient’s images to arrive at the physician’s office long before the patient gets there.

The PACS system gives a timeline for each image and has the capacity to migrate images from the older FUJI system; effectively accessing the images within seconds. This gives us the capability to access virtually all images - x-rays, ultrasound, MRI, nuclear and IR images for every patient, even the archived images. User initiated migration of images is conducted using an active timeline query. The user needs to conduct this query once and only once since the image becomes resident within the Philips PACS system with the very first query.

The PACS system installation was completed on such a tight schedule and in record-setting time. It was a first-of-its-kind effort to implement the system within only 6 months! This was only possible due to the amazing contributions of our support team and collaborators.

The success of this project was through the hard and dedicated work of a small contingent, which currently represents our core implementation team. I would like to say thanks to many amazing and inspirational people for their help: Lori Cavalli, Amy Brewer-Burton, Vedrana Djurdjic, Mike Wolfe, Bob Borys, Dr. Sanjay Suri, Mike Deeter, Amy Schoenherr, Kendra Potter, Robert Lovemore, CIO Shirley Gabriel, our Vice-Chairman Dr. Bill Erly, CMIO Dr. Peter Cantinella, our Chairman Dr. Diego Martin and CEO Dr. Michael Waldrum.

Based on a contract with Philips, we are excited and looking forward to our mutual collaboration over the next eight years.

Dr. Balazs Lengyel, Chief of Imaging Informatics

A New Feature - Employee Profiles! by Mimi Villafane

A new feature that’s been added to the Department of Medical Imaging newsletter is the employee profile section. Each edition of the newsletter will contain a profile on one or two department employees. This is a way to recognize the members of our team from all the different sections in our department. Thanks goes out to Stephen Alden for suggesting this new feature!

Bill Quirk - Radiology Technician, Clinical Instructor, Walking Imaging Archive!

Quality control. Radiology Technologist. Clinical Instructor. Dark Room Technician. These are some of the titles and jobs that Bill Quirk has taken on in his 40-year career here at the Department of Medical Imaging. Hired in 1973 as a Dark Room Technician, Bill developed x-ray films back when the development process involved messy chemicals and the end result was part art, part chemistry, part miracle. Quality control soon became another one of his jobs and his mission.

After receiving his Radiologic Technologist’s license through the Pima Community College (PCC) Radiologic Technology Program, Bill became the x-ray trouble-shooting expert and the go-to man for processor problems. Next he took on the added responsibility of training and teaching the PCC radiology technologist students in University Medical Center’s (UMC) Radiology Department. Since that time back in 1976, he has trained generations of radiology technologists at UMC. On average, Bill trains seven to eight PCC radiology students a year. That’s well over 400 radiology techs in his career!

Back when the radiology department only offered x-rays, Bill became the stabilizing force for learning and growing in our department with every new imaging service we added - Ultrasound, MRI, Nuclear Medicine, and IR. You could say Bill is a walking imaging archive with all his experience!

Passionate about teaching and imaging, Bill’s proud of what he does. “We work with our students and staff to provide the best image possible and available.” He strives to maintain the quest for excellent imaging. Bill says, “No other radiology department services the diversity of patients that we do.” In imaging everyone from Neonatal patients, to Organ Transplant patients, to Trauma Level One patients, we excel.  (Continued on page 3)
A New Feature - Employee Profiles  (Continued from page 2)

Bill has been working closely with the Neonatal ICU Unit since day one, working to make imaging easier on the smallest and most fragile patients we see, the premature babies. He’s also worked hard to create charts and protocols to make imaging easier and less traumatic for all patients, including abused children. Bill’s compassion shines through in all his interactions with patients, with students and with staff. Bill is an invaluable resource. He is an imaging shining star!

Natalie McMillan  
Chief Radiology Tech, Coordinator, Wunderkind!

One look at Natalie and you might guess that she’s a student. Don’t let her youthful appearance fool you. A natural born leader, she is the Chief Radiology Tech in the Nuclear Medicine section. Natalie has been with the department for nine years. She came here from South Dakota after finishing her nuclear medicine degree from Southeast Technical Institute and started at University Medical Center as a staff technologist. And, just four years ago, Natalie took over as the Chief Tech. The Nuclear Medicine department interacts and works very closely with every single department in the hospital - Pediatrics, Orthopedics, OB-GYN, Neurology, Cardiology, etc. That’s just one of the reasons why Nuclear Medicine relies heavily on their technologists and, of course, on Natalie. Natalie works well with everyone, in every department. Well known and respected, Natalie handles the clinical side equally well as the research side. “We do a lot of clinical trials, more than I ever thought I’d do,” says Natalie. She enjoys the fast-paced, busy aspects of her job as well as the staff she works with. “We have a great team and support staff,” says Natalie. Her organizational and leadership skill level is equivalent to someone with decades of experience, so much so that you could almost say she’s a leader-prodigy. Natalie’s natural leadership and ability to handle complex research protocols came into play when we began the huge challenge of orchestrating the PET CT Program at UMI in November 2010. This wouldn’t have been possible without Natalie. Natalie is someone who takes on challenges in-the-blink-of-an-eye and easily shines. She admits that sometimes it’s challenging to balance the administrative duties with the technical duties, but she still does it with ease. Natalie scintillates, pure and simple.

Congratulations to our Graduating Residents and Fellows! They’re on their way to the following Fellowships and positions:

Residents
Melanie Kuhlman, MD – University of Arizona – Interventional Radiology Fellow
Andrew Nash, MD – Brigham & Women’s Hospital, Boston, MA – Neuroradiology Fellow
Mohammed Nawas, MD – Mallinckrodt Inst. of Radiology, St. Louis, MO - Neuroradiology Fellow
Ravi Shastri, MD – University of Michigan, Ann Arbor, MI – Neuroradiology Fellow
Sachin Shroff, MD – University of Arizona – Neuroradiology Fellow
Karan Sundlass, MD – Medical College of Wisconsin, Milwaukee, WI - Interventional Radiology Fellow

Fellows
Stacey Black, MD - Vascular & Interventional - Faculty: UA Dept. of Med. Imaging, effec. 12/1/2013
Monique Meyer, MD - Neuroradiology - Faculty: University of Louisville, Dept. of Rad., Neuroradiology
Tamim Sultani, MD - Neuroradiology - MSK Fellow (2013-14) at UCLA
Danielle Carroll, MD - Breast Imaging - Radiologist: Arizona State Radiology, St. Mary’s Hospital, focus on Breast Imaging
Neil Kaura, MD- Musculoskeletal - Position w/Lake Havasu Regional Med. Ctr. in Diagnostic Radiology
Epic Go-Live Delayed until Nov. 1

UAHN President and CEO Dr. Michael Waldrum announced on Thursday, June 27th, that “After very deliberate and thoughtful evaluation, and considering thorough internal and external multi-stakeholder assessments surrounding UAHN’s readiness to launch our new Electronic Health Records system, I have made the decision to push back our planned Epic Go-Live from Sept. 1 to Nov. 1, 2013.” He also stated that “All of us ‘own’ this project and we must renew our commitments and efforts to ensure it is successful. Please take this extra time to assure your area is prepared.”

The EPIC Team will work to strengthen the training process during this time. He suggested that you should know what your training requirements are. If you are unsure of your training needs or if you have questions, please contact your direct supervisor. Please realize that your supervisor has been directed to limit PTO requests that in any way jeopardize the success of our Epic Go-Live.

Residents’ & Fellows’ Graduation Celebration

by Michele Dalmendray

Annually, our department acknowledges the academic achievement of its graduating residents and fellows. Friends, family, faculty and staff were on hand at the Skyline Country Club on Friday, June 14th to celebrate their accomplishments.

After a delightful buffet of appetizers, delicious main courses and decadent desserts, the following fourth year residents received their Resident Certification from Residency Program Director, Dr. Dorothy Gilbertson-Dahdal: Melanie S. Kuhlman, M.D.; Andrew K. Nash, M.D.; Mohammed T. Nawas, M.D.; Ravi K. Shastri, M.D.; Sachin H. Shroff, M.D. and Karanjot Sundlass, M.D.

Each of our graduating residents will move on to subspecialty fellowships into which they matched with their first choice of programs. Congratulations to you all!

Next in the program was the presentation of Fellowship Certifications. Monique A. Meyer, M.D. and Tamim Sultani, M.D. were awarded their certificates of completion for the Neuroradiology Fellowship by Program Director Dr. Wayne S. Kubal. Dr. Luke Scalcione presented the Musculoskeletal Fellowship certificate to Neil V. Kaura, M.D. Stacey R. Black, M.D., Vascular and Interventional fellow, was awarded her certificate of completion by Program Director Dr. Charles Hennemeyer. Dr. Kim Fitzpatrick, the Program Co-Director, presented the Breast Imaging Fellowship certificate of completion to Danielle M. Carroll, M.D. Graduates Hina Arif-Twari, M.D.; Samantha Matz, D.O. and Sindhu Kumar, M.D. received their Body Imaging Fellowship certificates of completion from Program Director Dr. James Costello. All of our graduating fellows have acquired job assignments with private radiology organizations, academic institutions or have attained additional fellowship positions around the country. (Continued on page 24)
**Imaging Shining Stars**

Each edition of the Department of Medical Imaging newsletter will have a section called “Imaging Shining Stars.” This section recognizes employees who’ve gone above and beyond the scope of their duties; people who’ve been given a pat on the back from a patient, another department, or generally someone outside our team.

***************

The following report came in from Laurie McMahon, an RN in the Emergency Department:

I wanted to share a very positive experience I had today. I had patient in room 46 that was a 1:1, we had a very hard time getting her to sleep and a hard time keeping her that way. The gentlemen that were at the CT scanner, named Greg and Julio, were without any doubt the most professional and caring CT peeps I have ever dealt with. They helped me out so much by dimming the lights, whispering and using the slide board. They went above and beyond and were very helpful to keep this patient sleeping, thanks to them. Could you please give them a pat on the back from us over here?

***************

A patient called to inform hospital administration of what a wonderful experience she had at UAMC. She mentioned Carol Suida assisted with her CT. The patient was very scared and nervous for the scan; however, Carol explained everything in detail, answered all her questions, and made her feel very comfortable and at ease. She stated she was cold and Carol provided her with a blanket.

Prior to her CT, she also had an ultrasound and stated the staff was pleasant, courteous and helpful. When she had a biopsy, she stated that Mark Akers and Dr. Khan held her hand and stayed by her side during the whole procedure. She was very appreciative of their time and patience while she underwent the procedure.

***************

Desi Spurr, MS CCC-SLP, Speech and Language Pathologist, submitted this awesome report:

I wanted to take a moment to recognize some amazing members of your staff in Radiology. Kimberly Guinter and Danielle Hobbs are true assets to this hospital, and especially to our Speech Therapy team. They both work very hard to accommodate our Speech Therapy pt’s, to meet our schedules and communicate with us throughout the day about orders both new and pending. Their interactions with patients are always very respectful, professional, and supportive. They are excellent pt advocates, always vigilant of orders that don’t quite seem to make sense and page me about these orders often for clarification. On multiple occasions, this vigilance has prevented an unsafe procedure from occurring (i.e., an NPO pt with severe dysphasia having an esophagram). They are also well educated about the equipment in fluoro and help the doctors with this so very often. These women do an excellent job every day they are here. I honestly do not know what I would do without them. Just wanted to acknowledge them for the amazing job they do.

***************

Kudos goes out to Carl, Mike T., Julio Jimenez and Greg Rosas, Dennis Schrage, Phinney Ripley, Dulce Quiroga, Mandy Vigil, Carol Suida, Mark Akers, Dr. Rihan Khan, Kimberly Guinter and Danielle Hobbs for going above and beyond for our patients! You ARE Imaging Shining Stars and truly embody the new department motto...

**We are here for you!**
UA at the Leading Edge - Innovative Researcher Acknowledged

UA Innovation Day opened with UA at the Leading Edge, a session that showcases the cutting edge research of leading UA faculty members.

One of this year’s Leading Edge researchers who demonstrated excellence in the areas of technology and innovation was our very own Lars R. Furenlid, PhD. Lars is developing instrumentation and methods for in vivo molecular imaging that are minimally invasive and which advance the diagnosis and treatment of many of the big health issues such as cancer and heart disease.

Winner of Philips Vyndareny Imaging Interpretation Competition

Each year at the Association of University Radiologists (AUR) meeting there is a Philips Vyndareny Imaging Interpretation Competition. It is a 2 day event where the institution who won the competition the previous year shows unknown cases (a total of 22) and the institution who gets the most right wins and gets to present the next year.

At the meeting in San Antonio last year Dr. Clint Jokerst was on the team that won from Washington University. Teams are typically made up of chief residents (of which Dr. Jokerst was one) and a few faculty members. Penn State won the competition this year in Los Angeles and will be presenting next year. Dr. Jokerst joined our Department of Medical Imaging team on July 1st!

UA Graduate Students receive Awards at ISMRM Annual Meeting

Three graduate students conducting their PhD research work in the Department of Medical Imaging received awards at the Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM) in May. Sagar Mandava received a Summa Cum Laude award and Mahesh Bharath Keerthivasan and Abhishek Pandey received Magna Cum Laude awards. Sagar’s award was in recognition of the development of a novel method for simultaneous multi-slice excitation for compressed sensing MRI. Mahesh was recognized for the development of a variable bandwidth MRI pulse sequence aimed at simultaneous determination of fat fraction and T2 within a breath hold. Abhishek’s award recognized the creation of an automated algorithm for segmenting the liver parenchyma from MRI images. Abhishek, Mahesh, and Sagar are students in the Department of Electrical and Computer Engineering pursuing their dissertation work in Medical Imaging under the direction of Drs. Maria Altbach and Ali Bilgin in collaboration with Drs. Galons, Kalb, Martin, Cumar and Sharma. Please congratulate these students for their hard work when you see them.

Goodbye Chris!

On Wednesday, June 26th, the Department of Medical Imaging held a goodbye celebration for Chris Laubenthal, Chief Administrator. Chris has accepted the position of Associate Director for Administration at the Holden Comprehensive Cancer Center, University of Iowa. We wish him all the best in his new position.
First Clinical X-ray in America

On January 19, 1896, young Eddie McCarthy of Hanover, New Hampshire, fell while skating on the Connecticut River and fractured his left wrist. His physician, Gilman D. Frost, contacted his brother, Edwin Frost, a Professor of Astronomy at Dartmouth.

On February 3, 1896 Eddie was brought to the Physics Laboratory in Reed Hall at Dartmouth where a battery powered Crookes vacuum tube was used to produce the first clinical x-ray in America. This “Colles” fractures was depicted with an exposure time of 20 minutes on glass “plates.”

For more information, go to the American Journal of Roentgenology. January 1995; 164:241-243 or click on this link: http://www.ajronline.org/doi/abs/10.2214/ajr.164.1.7998549

Imaging Word Search

... Here are the answers to last month’s word search.

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**Other Department News and Updates...**

- Dr. Ray Carmody received the “Distinguished Service Award” from the American Board of Radiology.
- Dr. Rihan Khan won the ASHNR “Name That Neoplasm” gameshow contest at the American Society of Head & Neck Radiology (ASHNR), 46th Annual Meeting, Miami, FL.
- Dr. Balazs Lengyel has been promoted to the Chief of Informatics, Informatics Division.
- Dr. Kamisz Nael was promoted to Director of Neuroradiology MRI in April.
- Dr. Isabel Oliva was appointed Director of Cardiothoracic Imaging, Director of Computed Tomography.
- Dr. Russell Witte has been promoted to Associate Professor with Tenure, effective July 1, 2013.

- The Radiology CT Department has a new addition - Debbie Beckett has joined our team as of April this year. She has been a CT/ MRI Technologist with 26 years of experience, with a total of 30 years in the Radiology field. Debbie has experience in acute care and trauma faculties. She also comes from a background in Siemens equipment. Debbie is certified in CT, MRI, and Mammography. Debbie originally came from St. Louis, Missouri. She moved to Tucson Arizona in 2011, where she worked at St. Joseph’s Hospital until she joined us at UAHN.

- Midge Ochart retired after 35 years of service in the Medical Imaging Department, Nuclear Medicine section. Thank you for your years of dedicated service, Midge!

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**Birthdays, Babies, Etc.**

_Wishing a very Happy June, July and August Birthday to our team members!_

### June:
- 6/1 Balazs Lengyel
- 6/2 Ryan Avery
- 6/3 Sylvia Gomez
- 6/5 Adam Bauer
- 6/9 Evan Hall
- 6/12 Natarajan Raghunand
- 6/15 Hina Arif Tiwari
- 6/17 Sterling Hansen
  - Terry Matsunaga
  - June Stavem
- 6/19 Divya Pillai
- 6/20 Zhonglin Liu
- 6/22 Elizabeth Hague
  - Mir Shayegan Salek
- 6/29 Lars Furenlid
- 6/30 Tzu-Yu Wu

### July:
- 7/1 Harrison Barrett
- 7/2 Michael Capp
- 7/9 Saveen Ahuja
- 7/14 Danielle Carroll
- 7/15 Michael Mousa
- 7/16 Hui Leung
- 7/30 Matthew Risi
- 7/31 Sean Lewis
- Arash Meshksar

**If we’ve missed your birthday, please let us know so we can help you celebrate and get you on our list for next year!***

### August:
- 8/1 Gail Stevenson
- 8/3 Marisa Borders
- 8/4 Margaret Goodman
- 8/8 Susan LeGendre-McGhee
- 8/10 Xiang Fan
- 8/11 Eugene Duke
- 8/15 Tim Hunter
- 8/17 Christy Barber
  - Zhita Li
- 8/18 Frank Morello
- 8/19 Abhishek Pandey
- 8/20 Mary Stuart
- 8/22 Kuris Tedesco
- 8/25 Karanjot Sundlass
- 8/26 Irwin Freundlich
- 8/30 Alexander Barber

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**Congratulations!**

*Dr. Rihan Khan and his wife, Mahjabeen, welcomed their baby boy, Dean, on May 24th. He was 8 lbs, 3 oz. and 20 inches.*

*Dr. Stewart Rasmussen and his wife, Emily, welcomed their baby girl, Naomi Faith, on March 24th. She was 6 lbs, 13 oz. and 18 1/2 inches.*
### Department of Medical Imaging Grand Rounds

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<td>Lung Cancer Screening</td>
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<td>Imaging of Head and Neck Infections</td>
<td>Neuro</td>
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<td>Picturing the Future of Cancer Health Care with AcidoCEST MRI</td>
<td>Research</td>
<td>Marty Pagel, PhD</td>
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*July and August GRAND ROUNDS Topics & Speakers TBA*

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**A Note from the Editor, by Dr. Rihan Khan**

Our end of the year newsletter edition is very encompassing and focuses on many exciting accomplishments by both individuals and groups within Medical Imaging. We have a detailed list of research projects, publications, presentations, and awards won, in addition to sections spotlighting individuals and highlighting great jobs by shining stars. We want to keep recognizing accomplishments no matter how large or small, so please keep forwarding your news, ideas, and recommendations for future issues (see email addresses on the last page).

This last year was a great one, and let’s continue to work hard together to make the new academic year even better!

Rihan
Publications, Presentations & Research

The following pages (pages 10 - 24) contain the publications, presentations, book chapters, invited lectures, poster and electronic exhibits and research that doctors from the Department of Medical Imaging are working on or have completed between July 2012 and June 2013.

Publications


- C. Huang, C. G. Graff, E. W. Clarkson, A. Bilgin, M. I. Altbach, T2 mapping from highly undersampled data by reconstruction of principal component coefficient maps using compressed sensing, Magnetic Resonance in Medicine, 67, 1355-1366, 2012.


(Continued on page 11)
Publications, Presentations & Research  (Continued from page 10)

Publications (Continued)

• Martin DR. Impact of Magnetic Resonance Imaging (MRI) on Computed Tomography (CT)-based treatment planning and acute toxicity for prostate cancer patients treated with Intensity –Modulated radiotherapy (IMRT). Practical Radiation Oncology. PRACTICALRADONC-D-12-00005R2.
• Tanpitukpongse TP, Klein MA, Scalcione LR, Katz DS. Large uterine fibroids with deep venous thrombosis, pulmonary embolus, and caval compression. ACR Case in point. July 1, 2013.

(Continued on page 12)
Publications, Presentations & Research (Continued from page 11)

Publications (Continued)


Invited Lectures/Oral Presentations

- Barr T, Huang C, Bilgin A, Abidov A, and Altbach MI. Indirect Echo Corrected Fast T2 mapping of the Heart from Highly Undersampled Radial FSE Data Using the CURLIE Reconstruction, Annual Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, Utah, April 2013.
- Huang C, Pandey A, Barr T, Bilgin and Altbach MI. An Indirect Echo Compensated Reconstruction Algorithm for T2 Mapping of The Liver from Highly Undersampled Radial FSE Data, Annual Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, Utah, April 2013.
- Berman BP, Li Z, Altbach MI, Galons JP, Martin DR, Dong B, Sharma P, Kalb BT, and Bilgin A. How to stack the stars: a variable center-dense k-space trajectory for 3D MRI, submitted to the Annual Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, Utah, April 2013.
- Pandey A, Bilgin A, Cumar S, Kalb B, Martin DR, and Altbach MI. Automated segmentation of liver, parenchyma and blood vessel with in-vivo radial Gradient and Spin-Echo (GRASE) datasets for characterization of diffuse liver disease, Annual Meeting of the International Society for Magnetic Resonance in Medicine, Salt Lake City, Utah, April 2013.

(Continued on page 13)
Invited Lectures/Oral Presentations (Continued)

• Kalb B. American College of Radiology, Body MRI course (Level II): Course faculty.
• Kalb B. State of the Art Multidisciplinary Treatment of Gastrointestinal Cancers: Winship Cancer Institute, Emory University School of Medicine.
• Kalb B. American College of Radiology, Body MRI course (Level II): Course faculty.
• Khan R. Neurogenic Spread of Tumor. Presentation at the Western Neuroradiological Society (WNSR) 44th Annual Meeting, Sedona, AZ, October 2012.
• Krupinski EA. (2013). Do long radiology work days impact diagnostic accuracy? Dept Medical Imaging Grand Rounds University of AZ, 27 March, Tucson, AZ.
• Krupinski EA. (2013). The role of color in telemedicine applications. International Color Consortium Summit on Color in Medical Imaging. May 8-9, Silver Spring, MD.
• Kubal WS. Stroke Imaging for the Emergency Radiologist. RSNA, November 2012. Based on his high score (4.79/5.00, Dr. Kubal has been invited to reprise his presentation at RSNA 2013.
• Kubal WS. Gave three invited presentations, National Diagnostic Imaging Symposium, Orlando, Florida. Dr. Kubal was also invited to speak at the National Diagnostic Imaging Symposium in 2013.
Invited Lectures/Oral Presentations (Continued)

- Martin D. Body MRI Case-Review Practicum, American College of Radiology Learning Center, Reston, VA. 2012.

(Continued on page 15)
Invited Lectures/Oral Presentations (Continued)

- Taljanovic MS. “Ultrasound of the Foot and Ankle- Rheumatologic Applications”, presented at the 39th Annual meeting of The International Skeletal Society (ISS), 9/11/2012, Rome, Italy
- Taljanovic MS. “Rheumatological Applications: Foot and Ankle Ultrasound”, presented in the Ankle and Foot Ultrasound Workshop, 2/15/2013, 2nd Joint Meeting of the Asian Musculoskeletal Society (AMS) and The Arabian Gulf Society of Skeletal Radiology (AGSSR), Doha, Qatar.
- Taljanovic MS. “Imaging of Benign Bone Tumors” presented to participants of the International Skeletal Society Regional Outreach Program during the 7th PACORI (Pan African Congress of Radiology and Imaging) meeting, Kigali, Rwanda, April 24-26, 2013, also moderated 2hrs session on 4/24/2013.
- Taljanovic MS. “US Imaging of the Wrist and Hand”, presented to participants of the International Skeletal Society Regional Outreach Program during the 7th PACORI (Pan African Congress of Radiology and Imaging) meeting, Kigali, Rwanda, April 24-26, 2013.
- Taljanovic MS. “US Imaging of the Shoulder”, presented to participants of the International Skeletal Society Regional Outreach Program during the 7th PACORI (Pan African Congress of Radiology and Imaging) meeting, Kigali, Rwanda, April 24-26, 2013.
- Taljanovic MS. “US Imaging of the Ankle and Foot”, presented to participants of the International Skeletal Society Regional Outreach Program during the 7th PACORI (Pan African Congress of Radiology and Imaging) meeting, Kigali, Rwanda, April 24-26, 2013.
- Taljanovic MS. “Extremity Fractures- Imaging and Management”, presented to participants of the International Skeletal Society Regional Outreach Program during the 7th PACORI (Pan African Congress of Radiology and Imaging) meeting, Kigali, Rwanda, April 24-26, 2013.
- Taljanovic MS. “Imaging and Management of Carpal Fractures and Fracture Dislocations”, presented at Rochester Roentgen Ray Society monthly dinner meeting, May 9th, 2013.

(Continued on page 16)
Publications, Presentations & Research (Continued from page 15)

Invited Lectures/Oral Presentations (Continued)

- Yoshimaru E, Cardenas-Rodriguez J, Pagel M, Erickson RP and Trouard TP. (2012) In Vivo 1H/19F UTE Imaging of Lung Disease, Arizona Alzheimer’s Consortium Annual Scientific Meeting, Glendale AZ.
- Unger E. Invited lecture at the 16th annual meeting of the American Society of Gene and Cell Therapy, entitled “Gene Delivery with Ultrasound and Microbubbles,” in Salt Lake City, Utah, May 18, 2013.

Poster & Electronic Exhibits/Case Reports

- Fisher JG, Kalb B, Dhere T, Martin DR, Galloway DR, Srinivasan J. Magnetic Resonance Imaging Accurately Differentiates Bowel Fibrosis from Acute Inflammation and Identifies Extraluminal Complications (with or without Glcontrast) in Patients with Inflammatory Bowel Disease. American College of Surgeons’ 98th Annual Clinical Congress. Chicago; October 2012.

(Continued on page 17)
Publications, Presentations & Research (Continued from page 16)

Poster & Electronic Exhibits/Case Reports (Continued)

- Kubal WS. Collaborated with radiologists from Yale and the University of Chicago on exhibit. Head and Neck Cancer: Pitfalls in Image Interpretation and How to Avoid Them. Annual Meeting of American Roentgen Ray Society (ARRS), April 14-19, 2013, Washington D.C.
- Walsh J, Avery R. Semantic Dementia diagnosed by FDG-PET/CT. ACR Case in Point.

Book Chapters


(Continued on page 18)
Research Activities

Dr. Borders said they are currently evaluating BI-RADS Category 3 findings and follow-up rates of patients. A medical student or resident could certainly help with retrospective data collection for this project if interested in breast imaging.

Dr. Buadu has three research projects in progress where she is the Principal Investigator:
1. Cost-Benefit Analysis of lung nodule follow up on Computed Tomography; Principal Investigator;
2. Evaluation of Liver surface Nodularity with the High Frequency Transducer; Systematic Review of the literature; Principal Investigator
3. Renal transplant ultrasound complications - Principal Investigator

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3. Renal transplant ultrasound complications - Principal Investigator

Dr. Carmody has several ongoing Alzheimer research projects with Geoff Ahearn. He also started a new project with Elizabeth Krupinski last July, to study the effect of the iPad on the practice of neurosurgery.


Dr. Devis is working on a phase III research project with oncology.

Dr. Erly is researching force vectors in mixed martial arts knock-out punches. He also has interest in mapping vascular grooves in the cervical spine.

Kim Fitzpatrick has four ongoing research studies. She is the Principal Investigator for the first one and Co-Investigator for the last three:

BI-RADS 3 Study, Principal Investigator
- Evaluating current ACR recommendations for follow-up of BI-RADS 3 lesions, as well as reasons for or against compliance with follow-up, 2011-present

I-SPY2 Clinical Trial, Co-Investigator
- Interpreting breast MRIs for monitoring of tumor volume and performing serial breast biopsies for monitoring tumor histology profile in the setting of a novel neoadjuvant chemotherapy regimen, 2009-present

Breast Density and Chemoprevention Study, Co-Investigator
- MRI evaluation of breast tissue changes in women with mammographically dense breasts receiving breast cancer chemoprevention therapy, 2009-present

Letrozole Study, Co-Investigator
- Identifying women who meet criteria for appropriate referral to the study, which is evaluating the efficacy of Letrozole therapy for prevention of breast cancer in high-risk women, 2010-present

Dr. Gilbertson has several ongoing projects:


Publications, Presentations & Research (Continued from page 18)

Research Activities (Continued)

Dr. Gilbertson
Co-Investigator, 5% salary support:
Title: “Gene-by-Gene Interactions and Lung Fluid Balance in Patients with Heart Failure”
Source: National Institutes of Health (R01) $2,230,000 (PI : Eric Snyder)

Dr. Hunter is developing a website to display the wide range of medical devices and foreign bodies found on everyday imaging studies. This website will be the electronic outgrowth and update on the textbook Radiologic Guide to Medical Devices and Foreign Bodies by Hunter and Bragg and the series of RadioGraphics articles on medical devices and foreign bodies by Hunter and Taljanovic.

Dr. Khan has two ongoing studies:
Visualase, Inc. Protocol Number: VIS-10-001
“Pilot Study to Evaluate MR-guided Laser Ablation of Epileptic Foci.”
Role: Rihan Khan, M.D. Sub-I, study Neuroradiologist. PI: David Labiner, M.D.

“A Phase 2, Randomized, Double-Blind, Placebo-Controlled, Parallel Group, Multi-Center, Biomarker, Safety, and Pharmacokinetic Study of Bapineuzumab (AAB-001) Administered Subcutaneously at Monthly Intervals in Subjects with Mild to Moderate Alzheimer’s Disease”
Role: Rihan Khan, M.D. Sub-I, one of two local study Neuroradiologists. PI: Geoffrey Ahean, M.D.

Dr. Elizabeth Krupinski:
• Eyestrain in Radiologists. NIH/NIBIB. Elizabeth Krupinski, PhD PI.
• New Methods for Analysis of Eye-Tracking Data for Medical Image Perception Research. NIH/NIBIB. Elizabeth Krupinski, PhD PI of sub-award from University of Pittsburgh
• Satisfaction of Search in Diagnostic Radiology. NIH/NIBIB. Elizabeth Krupinski, PhD PI of sub-award from University of Iowa
• Southwest Regional Telehealth Resource Center. HRSA. Elizabeth Krupinski, PhD PI.
• MIPS XV Conference. NIH. Elizabeth Krupinski, PhD PI Human Observer Study Design for Quantitative CT Image-Quality Assessment. GE Corp. Elizabeth Krupinski, PhD PI.
• Understanding Visual Search Patterns of Dermatologists Assessing Pigmented Lesions. University of Arizona Cancer Center Skin Cancer Institute. Elizabeth Krupinski, PhD PI.
• Compromised Diagnostic Radiology Interpretation from Observer Fatigue. NIH/NIBIB. Elizabeth Krupinski, PhD PI.

Dr. Kuo is the Principal Investigator for two University of Arizona studies (the first two listed below) and the Sub-investigator for three more studies (numbers four through six):
1. Principal investigator for University of Arizona for “Multicenter, open-label study to evaluate the safety and efficacy (by blinded reading) of contrast-enhanced magnetic resonance angiography (MRA) after a single intravenous injection of 0.1 mmol/kg gadobutrol in subjects with known or suspected vascular disease of the supra-aortic vessels” (GEMSAV). 2011- present.
2. Principal investigator for University of Arizona for “Efficacy and safety of 1.0 molar gadobutrol (Gadovist) for breast MRI” (GEMMA).
3. Sub-investigator for “Diagnostic and prognostic value of the stress-induced right ventricular uptake on Lexiscan stress MPI in patients with known and suspected CAD.” Investigator initiated grant from Astellas. (A. Abidov PI)
4. Sub-investigator for S1001 “A Phase II Trial of PET-Directed Therapy for Limited Stage Diffuse Large B-Cell Lymphoma (DLBCL).” (D. Persky PI)
5. Sub-investigator for “Investigation of Serial Studies to Predict Your Therapeutic Response with Imaging And molecular Analysis 2” (I-SPY 2).
7. Most recently, Adam Bernstein, a recent UA graduate with a bachelor of science degree in physiology and biomedical engineering with a minor in mathematics, worked with Dr. Kuo. The goal of Adam’s project with Dr. Kuo is to demonstrate that significant reductions in radiation dose for bone PET (positron emission tomography) scans are achievable with minimal detriment to image quality. (Continued on page 20)
Publications, Presentations & Research (Continued from page 19)

Research Activities (Continued)

Dr. Martin has several research grants:
Grant Title: The Early Collaborative Clinical Studies in PKD: The Consortium for Radiologic Imaging Studies of PKD (CRISP) Extended Cohort Institute
Funding Agency: NIH/NIDDK U01 DK62408
Role: Co-Investigator (0.60 calendar months) (PI: Arlene Chapman)
Total Costs: $768,048

Grant Title: Core A Imaging Core - Emory Molecular and Translational Imaging Research Center
Funding Agency: NIH P 50 CA 128301-01A1
Role: Co-investigator (0.60 calendar months) (PI: Carolyn Meltzer)
Dates: September 2008 – 2013
Total Costs: $967,742

Grant Title: Virtual MRI Biopsy of Diffuse Liver Disease (Bayer Pharmaceuticals)
Role: Principal Investigator (0.12 calendar months)
Total Costs: $23,077

Grant Title: Emory-Bracco Educational MRI Fellowship Fund
Role: Principal Investigator
Dates: July 2007-2012
Total Costs: $325,000

Dr. Nael has several projects and grants:
IRB: Principal Investigator for:
- Multimodal MR imaging in evaluation of patients with acute stroke and TIA (UOA IRB #2012-464-01)
- Multimodal MR imaging in evaluation of patients with mild traumatic brain injury (UOA IRB #2012-820-01)

Grant proposal: Multi-modality MRI in Patients with TIA: A Paradigm for Assessment of Outcome and Risk of Future Stroke. Application will be submitted for National Institute of Health (NIH), Stroke Section. Role: PI

Grant proposal: “Neural correlates of recovery from aphasia after acute stroke”. Application has been submitted to NIH. Role: Co-PI (PI: Stephen Wilson, PhD).

Grant Proposal: “Detection and Quantification of Mild TBI using Biomarkers Derived from MR Phase”. NIH Career Development Award (K). Role: Co-Mentor

Dr. Stern is currently working with Ravi and Veronica on a retrospective PE analysis study.

Dr. Taljanovic is working with Medical Students and Residents on many of her projects (currently working with two Radiology residents, two Orthopaedic residents, a Medical Student and a Rheumatology fellow).

Co-investigator in “Ultrasound elasticity imaging for the diagnosis of human PTTD” (PI- Daniel Latt MD- Faculty seed grant- $75,000)- Arizona Department of Health and Human Services Public Health Services. University of Arizona BIO5 Institute Pilot Grant

Dr. Trouard has these grants:
Agency: NIH-NIA
Grant #: R03
Title: 3D UTE Imaging in Alzheimer’s Mice
Role, % effort: Principal Investigator, 5%
Dates: 07/01/2010 – 06/30/2012
DC, current project year: $50,000
DC, total project period: $100,000
IC rate: 51.5% (Continued on Page 21)
Publications, Presentations & Research (Continued from page 20)

Research Activities (Continued)

Dr. Trouard - grants:
Agency: NIH
Grant #: SBIR
Title: Whole-brain fluorescence and brightfield imaging at single-cell level
Role, % effort: Co-PI 5%
Dates: 01/01/2009 – 11/30/2014
DC, total project period: $3,652,829
IC rate: 51.5%

Dr. Unger has research work on several fronts:
Member NIH Gene and Drug Delivery Study Section 2008 to 2012
Member NCI Site Visit, University of Chicago Comprehensive Cancer Center, Cancer Center Review, September 2012.
Member of the study section for the National Cancer Institute to review UCLA’s Cancer Center Support Grant, May 21, 2013.
Member NCI Nanotechnology Platforms in Cancer Study Section, July 11th-12th 2013

Grants:
Program Co-Leader, Arizona Cancer Center Imaging Program, NCI P50, January 2010 to present provides about 10% of salary support from NCI.

PI of subcontract, NIH 1 R01 EB009050-01, Ultrasound and Targeted Microbubbles to Treat Myocardial Infarction, PI Xie, $201,600 in funding to my lab in sub-contract 2008 to 2013. His lab makes non-targeted bubbles and bubbles targeted to GPIIBIIIA and to fibrin for the project.

Projects:
Clinical translation of a new oxygen therapeutic with broad ranging medical applications. Filed pre-IND for dodecafluoropentane (DDFPe), met with FDA on April 4th, 2012. Received guidance and now proposing plan to FDA to complete additional pre-clinical studies to enable entry into clinical trials for DDFPe as oxygen therapeutic. Conducting preclinical studies in stroke, radiation sensitization of hypoxic tumors and as fluid for organ preservation in transplantation. A number of publications related to this project are presently in progress.

Development of new contrast agents for ultrasound and combination imaging and therapy. Novel new nanoparticle technology targeted to inflammation. We have synthesized peptides targeted to E-selectin and incorporated these into novel nanoparticles. These nanomaterials are active in murine and human cells lines. Nanoparticles not only bind to inflamed endothelial cells but also are accumulated intracellularly by target cells. Applications include ultrasound and fluorescence imaging and gene and drug delivery.

Dr. Witte is working on a DARPA Project “Defense Award Helps University of Arizona Advance Detection of Bombs and Breast Cancer”, http://www.engr.arizona.edu/news/story.php?id=593
(PI Hao Xin [ECE], co-PI Russell Witte [Medical Imaging], Raytheon Missile Systems, and NIST)

Patents:


Publications, Presentations & Research (Continued from page 21)

Society Leadership Positions

**Maria Altbach:**
Charter Member of the Medical Imaging (MEDI) NIH Study Section from July 2012
Special Emphasis Review Panel Member for NIBIB (March 2013)

**M. Paul Capp:** Despite being semiretired, Dr. Capp still serves on one or two committees of the ARRS and RSNA and still helps examine for the ABR.

**Bill Erly:** Program committee for Western Neuroradiological Society.

**Bobby Kalb:** RSNA Education Exhibits Committee

**Rihan Khan:** American Society of Neuroradiology (ASNR), Education Exhibits Committee
Western Neuroradiological Society (WNRS), Membership Committee
American Society of Neuroradiology (ASNR), Abstract Reviewer for Annual Meeting
Western Neuroradiological Society (WNRS), Gabriel H. Wilson Award Committee
Moderator for Scientific Session (Oral presentations) at 2012 WNSR Annual Meeting, Sedona, AZ
American Roentgen Ray Society (ARRS), Scientific Program Subcommittee

**Wayne Kubal:**
Vice President of the American Society of Emergency Radiology
Scientific Program Committee of the American Society of Emergency Radiology
Nominating Committee of the American Society of Emergency Radiology
American Society of Neuroradiology (ASNR) Fellowship Directors Committee
American College of Radiology (ACR) Committee on Emergency Radiology
RSNA 2013 Education Exhibit Subcommittee, reviewer of exhibit abstracts at 2013 RSNA meeting

**Diego Martin:**
RSNA Research and Education Foundation Corporate Giving Subcommittee
Director, American College of Radiology, Annual Body MRI Review Course
Author and Director, American College of Radiology, Level II Practical Body MRI Case Review Course and Credentialing
Chair, American College of Radiology, Continued Professional Improvement (CPI) Continued Medical Education (CME) on Body MRI

**Robert Stern:**
Member, Editorial Board of the American Journal of Medicine
Specialty Editor, Imaging – AJM

**Mihra Taljanovic:**
Pan African Congress of Radiology and Imaging (PACORI)- scientific advisor
Editorial Board of Skeletal Radiology journal

**Ted Trouard:**
Appointed Assistant Director of BIO5 Institute (2012)

Reviewers/Advisory Board Members:

**Dr. Altbach**
Journal of Magnetic Resonance Imaging
Magnetic Resonance in Medicine
IEEE Transactions in Medical Imaging
(Continued on page 23)
Publications, Presentations & Research (Continued from page 22)

Reviewers/Advisory Board Members: (Continued)

Dr. Kalb
Reviewer for Radiographics
Journal of Computer Assisted Tomography
Journal of Magnetic Resonance Imaging
Journal of the Pancreas
International Journal of Cardiovascular Imaging
European Radiology

Dr. Khan
Academic Radiology, Reviewer
International Geiatric Radiotherapy Group, Scientific Advisor
American Journal of Neuroradiology, Reviewer
Oxford University Press Radiology Advisory Board
Oxford University Press, Reviewer

Dr. Kuo
Reviewer for American Journal of Roentgenology, Reviewer for European Radiology

Dr. Kubal
Reviewer for the Journal RadioGraphics
Reviewer for Emergency Radiology
Reviewer for Neuroradiology

Dr. Martin
American Journal of Radiology
Journal of Magnetic Resonance Imaging
Magnetic Resonance in Medicine
RadioGraphics

Dr. Nael
Reviewer for Investigative Radiology, American Journal of Roentgenology, Journal of Magnetic Resonance Imaging, Magnetic Resonance in Medicine, European Radiology

Isabel Oliva:
Radiographics
Journal of Thoracic Imaging

Terry Ovitt
State ACR Councilor, Member ACR Communications Committee
European Journal of Radiology
European Radiology
American Journal of Kidney Disease
Hepatology
Acta Radiologica
Editorial Board Journal of Magnetic Resonance Imaging, Associate Editor for Book Reviews (Continued on page 24)

Dr. Unger
Consultant to the Editor, Radiology
Industry - Chairman, Board of Directors, NuvOx Pharma, LLC, Tucson, AZ.
Scientific Advisory Board - Focused Ultrasound Surgery Foundation, 2007-present.

Resident Committee Memberships:

Monique Meyer - RSNA Resident and Fellow Committee (last meeting 6/6/12)
Monique Meyer - ABR Initial Certification Advisory Group (last meeting 5/30/12)

(Continued on page 24)
Resident Committee Memberships: (Continued)

Melanie Kuhlman and Greg Horsley - University of Arizona College of Medicine ACGME Committee
(last meeting 6/15/12)

Ravi Shastri - University of Arizona Medical Center Quality Committee

Residents’ & Fellows’ Graduation Celebration

(Continued from page 4)

Dr. Gilbertson and Department Chair Dr. Diego Martin presented multiple awards during the evening as well. During the course of an academic year, July through June, medical students vote on the resident they feel provided the best instruction during their rotation in our department. This year there was a three way tie between Drs. Matthew Covington, Eugene Duke and Amy Janicek. Each of these residents was presented the Resident Teaching Award. Medical students also vote on the best teacher among our Attending. Dr. Veronica Arteaga won that honor, The Saguaro Award, for the third consecutive year. We wish to extend a hearty THANK YOU to all who spend time in the reading rooms and presenting lectures to our MD candidates every week.

The Outstanding Exam Award was designated this year to Dr. Michael Davis for achieving the highest score on the resident exam.

The Roentgen Resident/Fellow Research Award is presented by the RSNA to a program nominated resident or fellow. This award seeks to recognize and encourage outstanding residents and fellows in radiologic research as evidenced by presentations of scientific papers at regional or national meetings, publication of scientific papers in peer-reviewed journals, receipt of a research grant or contributions to the success of a research program within the department and other research activities. Our 2013-14 recipient of this prestigious award was Neuroradiology fellow Dr. Monique A. Meyer. Look for her achievements to be acknowledged nationally in upcoming RSNA publications.

Each year, our resident house staff chooses a faculty member who stands out as the one who most contributes to resident education. Originally this award was called the Outstanding Teacher in Radiology. Over a period of twenty years, Dr. George Barnes was a tireless member of the academic staff in the Department of Radiology who had a passion for teaching. He wore a bow-tie every day and instilled his love of radiology to residents and fellows. He won the Outstanding Teacher award so many times that it was subsequently named in his honor. This year the George Barnes Award was presented by fourth year residents Dr. Sachin Shroff and Dr. Adam Bauer to Vascular/IR Section Chief Charles Hennemeyer, M.D.

CONGRATULATIONS to all our graduates and award winners. We wish you continued success wherever your career may take you.

KUDOS also goes out to Norma Leon and Dr. Dorothy Gilbertson-Dahdal for coordinating this special event!